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09/971,797	10/05/2001	Michael Kauschke	34303/49	3584

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EXAMINER

YAO, SAM CHAUN CUA

ART UNIT PAPER NUMBER

1733

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/971,797

Applicant(s)

KAUSCHKE ET AL.

Examiner

Sam Chuan C. Yao

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 20-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

El ction/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-15, drawn to a method of making a nonwoven fabric.
Independent claim 1 of this group requires "a second direction normal to the first direction" and "a total bonding area along the second direction greater than along the first direction" **(A)**.
 - II. Claims 16-19, drawn to a method of making a nonwoven fabric.
Independent claim 16 of this group requires **(A)** and "*the total bonding area along the second direction being 1.1-5.0 times grater than along the first direction ... with a bonded portion/unbonded portion ratio grater along the second direction than along the first direction.*" **(B)**
 - III. Claim 20, drawn to a method of making a nonwoven fabric. This claim requires **(A)** and "*the bonding points defining gaps therebetween of unbonded nonwoven in the first direction of a length greater than the length of the gaps therebetween of unbonded nonwoven defined by the bonding points in the second direction.*" **(C)**.
 - IV. Claims 21-23, drawn to a method of making a nonwoven fabric.
Independent claim 21 of this group requires "*having a center-to-center sepration greater in the first direction than in the second direction*" **(D)**.
 - V. Claims 24-25, drawn to a method of making a nonwoven fabric.
Independent claim 24 of this group requires "*a regular pattern of bonding*"

Art Unit: 1733

points ... being non-symmetrical in plan, ... each bonding point having an extension in the CD less than the extension in the MD" (E).

NOTE: Group I is a linking group to Groups II and III. This group will be examined together with Group II or Group III.

The inventions are distinct, each from the other because of the following reasons:

Groups II-V are directed to distinct methods, where patentability in the independent claims of each group is based on divergent combination of method steps. For instance, independent claim 16 requires limitation **B**, but not **C, D or E**; similarly for independent claims 20-21 and 24. The differences between these groups are critical and significant to the extent that the inventions constitute prima facie patentably distinct combinations, absent evidence to the contrary.

This can readily and clearly be demonstrated by a side-by-side comparison of the independent claims. Similarities of the independent claims are merely superficial, since certain significant limitations in one of the groups find no counterpart in the other group(s) and vice versa.

Presently, no claim is generic. **Rejoinder of all non-elected groups of method will be considered, upon indication of allowable subject matter, depending on the basis thereof.**

2. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Groups III-V, and vice versa, restriction for examination purposes as indicated is proper.

Art Unit: 1733

3. During a telephone conversation with Mr. Ken George on 05-27-03 a provisional election was made with traverse to prosecute the invention of Groups I-II, claims 1-19. Affirmation of this election must be made by applicant in replying to this Office action. Claims 20-25 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 10-11, and 13-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 is indefinite because it is unclear how this claim further limit claim 1.

Claim 1 already requires a total bonding area along a 2nd direction to be greater than along a 1st direction, and the bonding points pattern density along both directions to be uniform. Shouldn't the limitation in this claim be inherent in claim

1. In other words, the limitation in this claim would appear to be redundant.

Art Unit: 1733

Claims 11 and 13 are also indefinite for the same reason as claim 10. Moreover, claim 13 appears to broaden claim 1, instead of further limiting it. Note that, claim 1 requires "*a nonwoven defined by substantially randomly oriented, substantially continuous fibers*"; while this claim does not require the fiber to be continuous. Claim 14 is indefinite because it would appear to be inconsistent to claim 1. Is it possible to form continuous fiber by melt-blowing process?

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langley et al (US 5,728,451) in view of Willey et al (US 5,494,736) and Marcus (US 6,053,999).

With respect to claims 1 and 10-15, Langley et al discloses a process of making a non-woven composite, the composite includes a pair of covering spun-bonded webs, each of the webs has a grab strength of at least 6.5 pounds to break and an elongation value of at least 52% in machine direction (MC), and has a grab strength of at least 5 pounds to break and an elongation value of at least 72% in cross direction (CD) (col. 5 lines 9-30). In other words, for at least certain embodiments, a covering web taught by Langley et al has a grab strength that is higher in MC than in CD, and an elongation value that is lower in MC than in CD.

Art Unit: 1733

Langley et al also teaches that, a "*point bonding ultrasonic energy has provided the foundation for using ultrasonic energy to laminate and/or form non-woven fabrics and products.*" (col. 10 lines 16-67). Although not expressly disclosed, each of the spun-bonded webs is taken to comprise "*substantially randomly oriented*" filaments, because a spun-bonded web is formed from a stream of randomly deposited filaments from a spinneret onto a forming belt. In fact, claim 14 requires the non-woven web to be a spun-bonded web. In any event, such would have been obvious in the art as such is conventional in the art. Langley et al differs from claim 1, in that Langley et al does not teach the bonding pattern recited in this claim. However, Willey et al teaches the amount of pattern bond area is a key factor in "*providing the high cross machine direction elongation properties*" of a non-woven web; and further suggests that, as the pattern bond area is decreased, a non-woven web may not be sufficiently bonded so that it can exhibit "*pilling, peeling, and the like*" (col. 4 lines 42-57). Willey also teaches using an ultrasonic welding process in pattern welding a fibrous web (col. 4 lines 15-29). Moreover, Marcus teaches forming an ultrasonically pattern welded web, the welded web includes uniform rows of welded spots along a machine direction and uniform columns of welded spots along a cross direction; wherein the distance between rows of welded spots is greater than the distance between columns of welded spots (col. 7 lines 26-68). The collective teachings of Willey et al and Marcus would have suggested to one in the art that, one can effectively form a web which has greater elongation value and a smaller grad strength in CD

Art Unit: 1733

than in MD by using a similar bonding pattern suggested by Marcus, with some minor modification. Instead of exactly using the same bonding pattern suggested by Marcus, one would only need to reverse a relative bonding density between MC and CD. In other words, one would only need to use a pattern-bonding roll where a distance between rows of protrusions is less than the distance between columns of protrusions. For these reasons, it would have been obvious in the art to thermally pattern bond a web using a pattern collectively suggested by Willey and Marcus (i.e. pattern welding a web in the manner recited in claim 1). There is none, but only the expected result of forming a pattern-welded web, which has a greater elongation and lower grab strength along CD than along MD. It directly follows that, since the bonding pattern recited in claim 1 reads on the welding pattern suggested by Marcus, the recited bonding pattern would have been obvious in the art making covering webs taught by Langley et al.

With respect to claim 2, see a welding pattern illustrated in figure 2 of Marcus. Note further that, the distance between rows in MC is 30 mm and the distance between columns in cross direction is 21 mm (col. 7 lines 45-48). The ratio between these relative distances is 1.43.

With respect to claim 3, since there is a strong correlation between grab strength and tensile strength of a fiber web, this limitation would naturally flow from the teaching of Langley et al using a welding pattern similar to the one taught Marcus. Note further that, Willey et al implicitly suggested that, as the pattern bond area is decreased, a bonding strength (i.e. tensile strength) of a non-woven

Art Unit: 1733

likewise decreases so that, it exhibits "*pilling, peeling, and the like*" (col. 4 lines 42-57).

With respect to claims 4-9, since it is conventional in the art to use embossing rolls/ultrasonic welding means having bonding points of various configurations such as circular, oval, square, rectangular, etc. in pattern welding a web; and since it is taken to be well within the purview of choice in the art to choose from among well known bonding point configurations to effectively spots weld a web as well as to enhance the aesthetic appearance of a resultant web, these claims would have been obvious in the art. As for claim 6, see column 5 lines 52-65 of the Marcus patent.

With respect to claims 16-19, these claims are essentially repetitions of the above mishmash of claims, for essentially the same combine reasons set forth above, these claims would have been obvious in the art.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (703) 308-4788. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W Ball can be reached on (703) 308-2058. The fax phone numbers

Art Unit: 1733

for the organization where this application or proceeding is assigned are (703) 305-7115 for regular communications and (703) 305-7718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

scy
May 27, 2003